

FIG.1

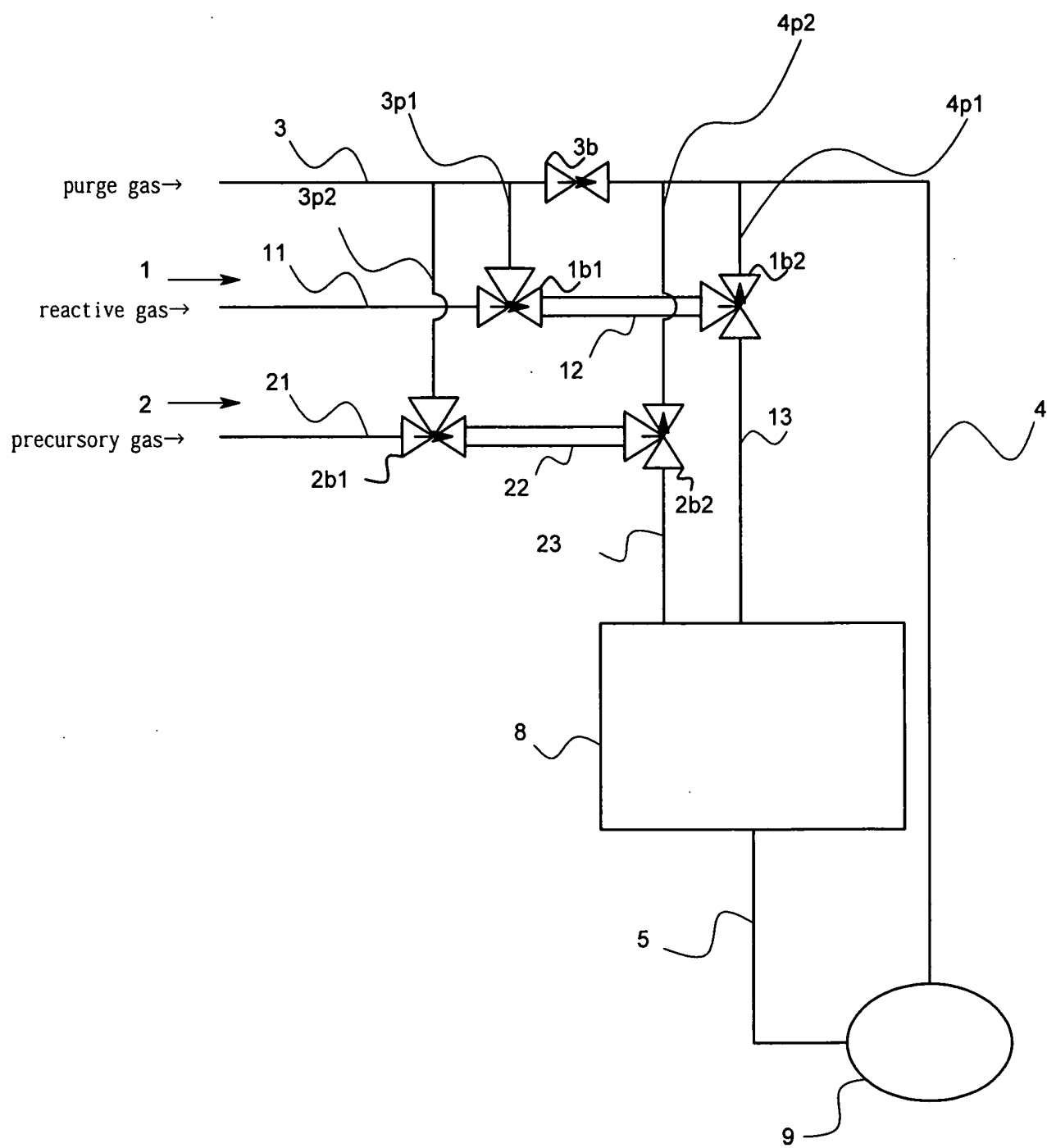


FIG.2

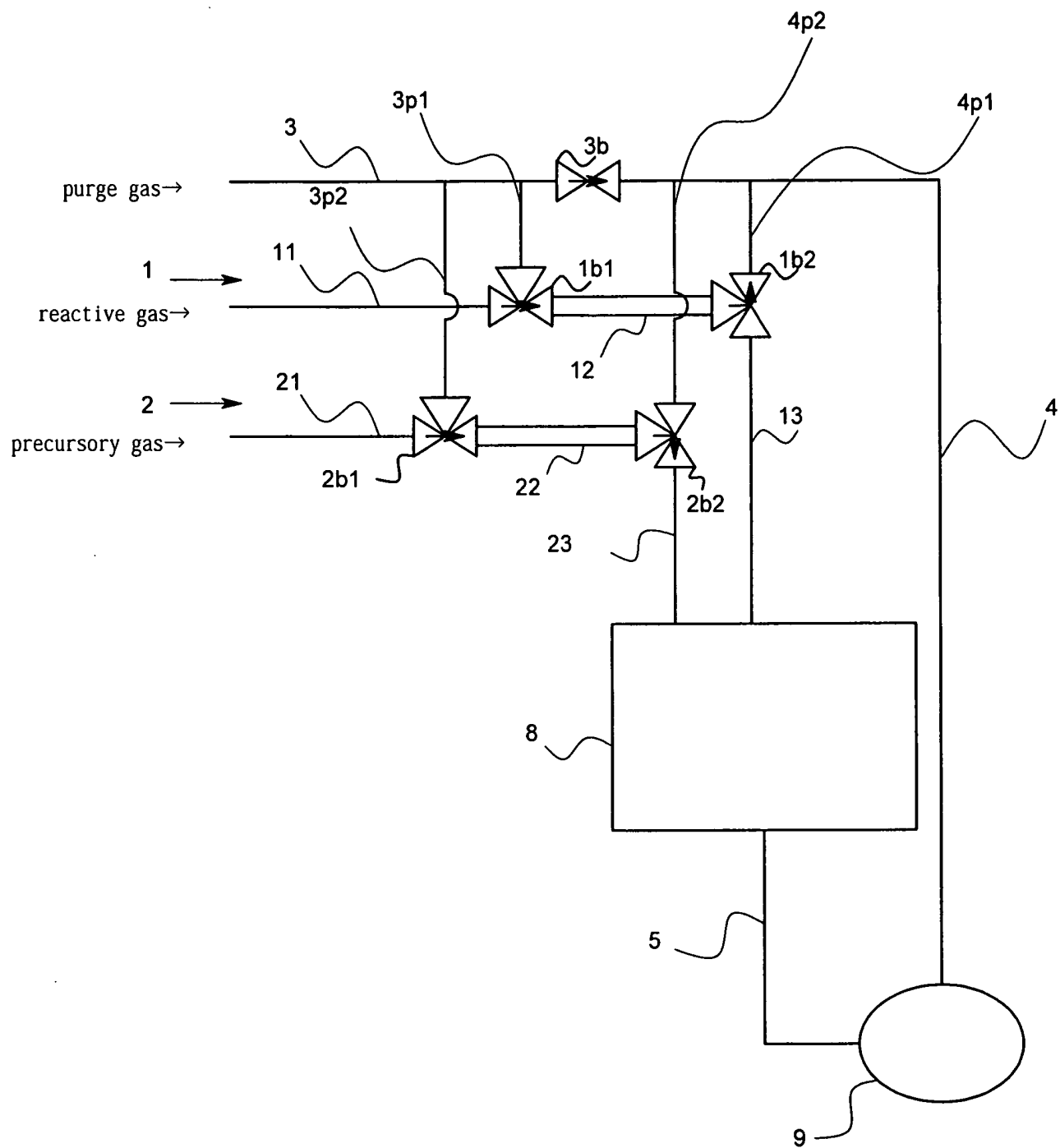


FIG.3

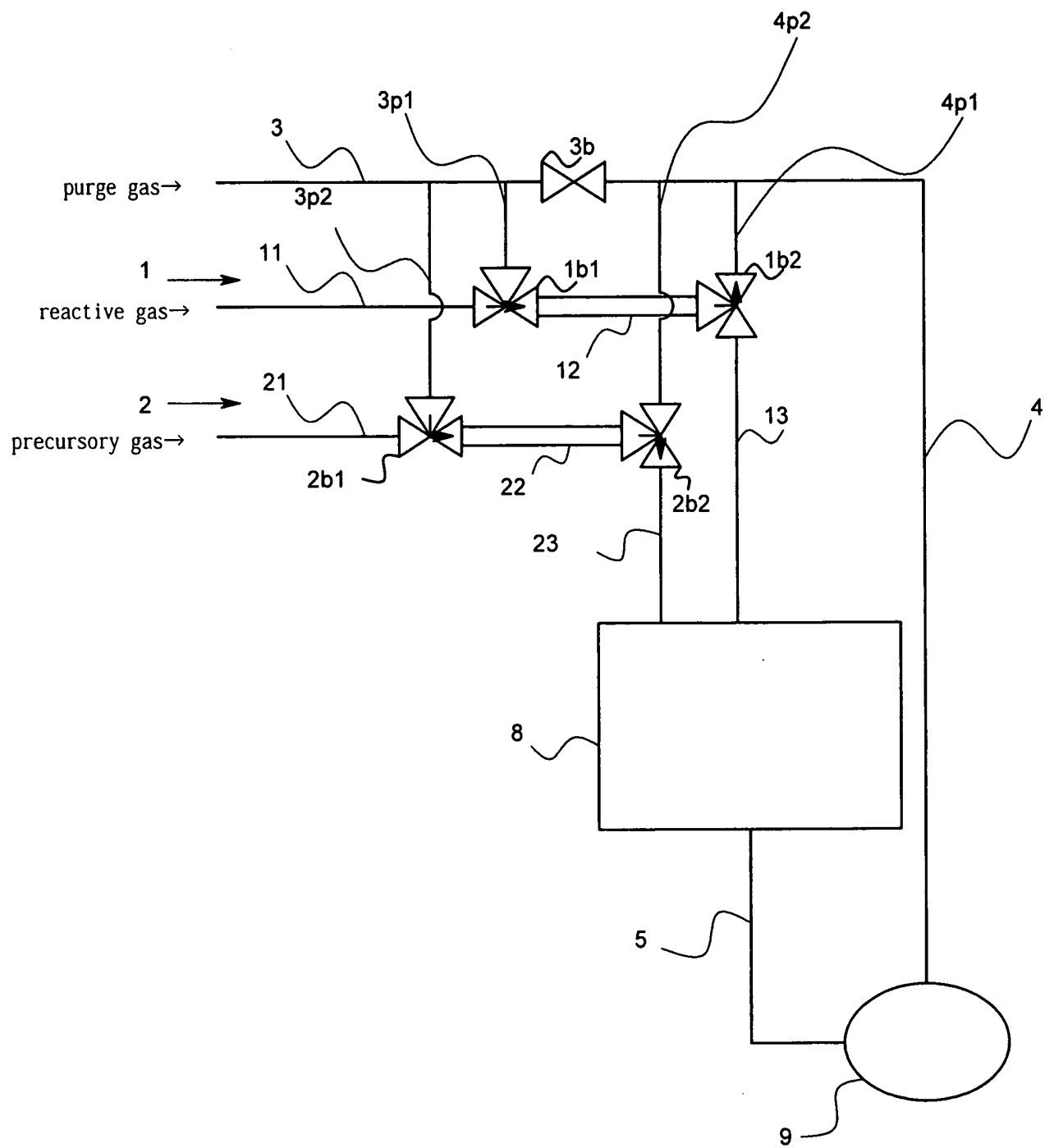


FIG.4

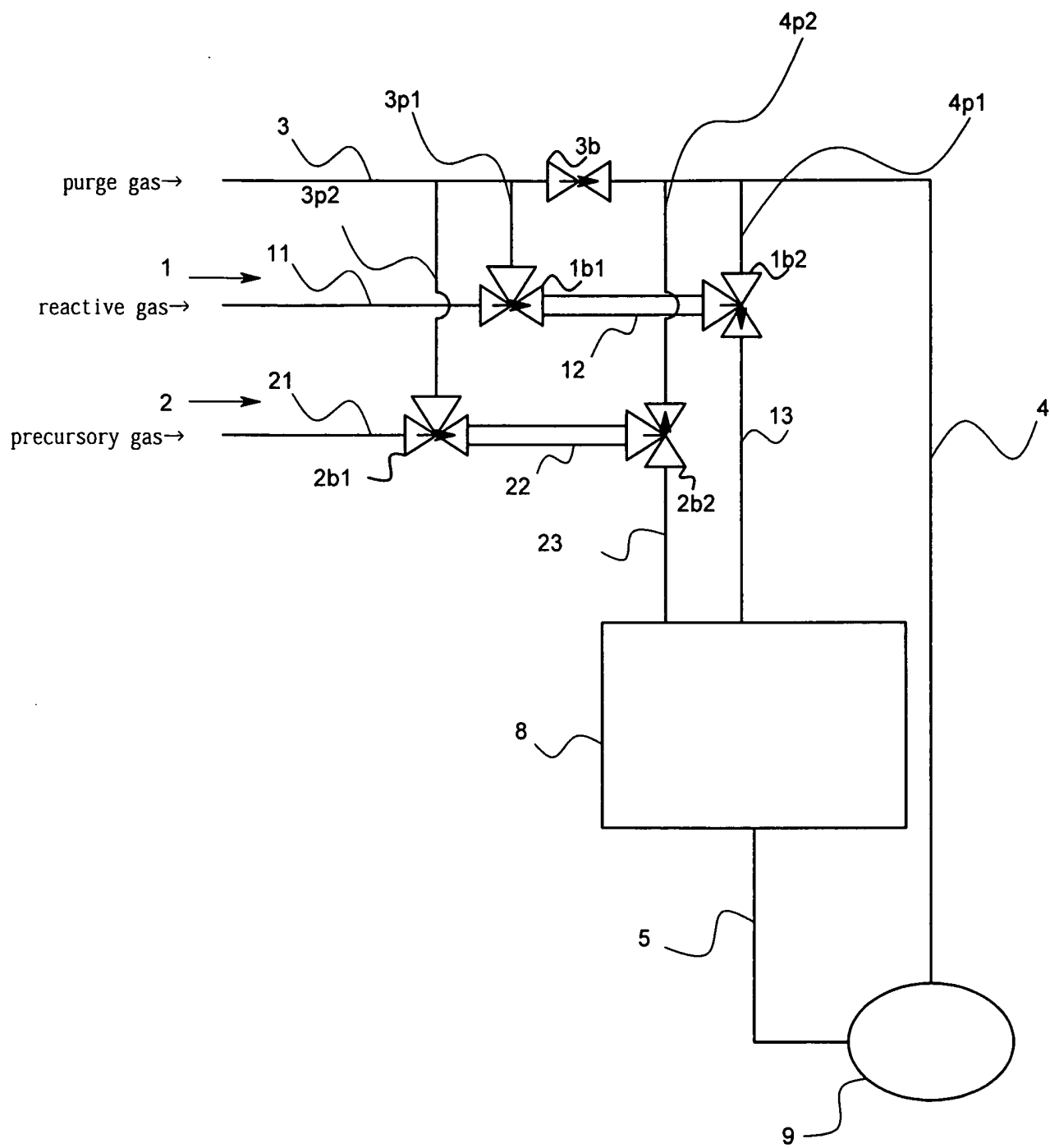


FIG.5

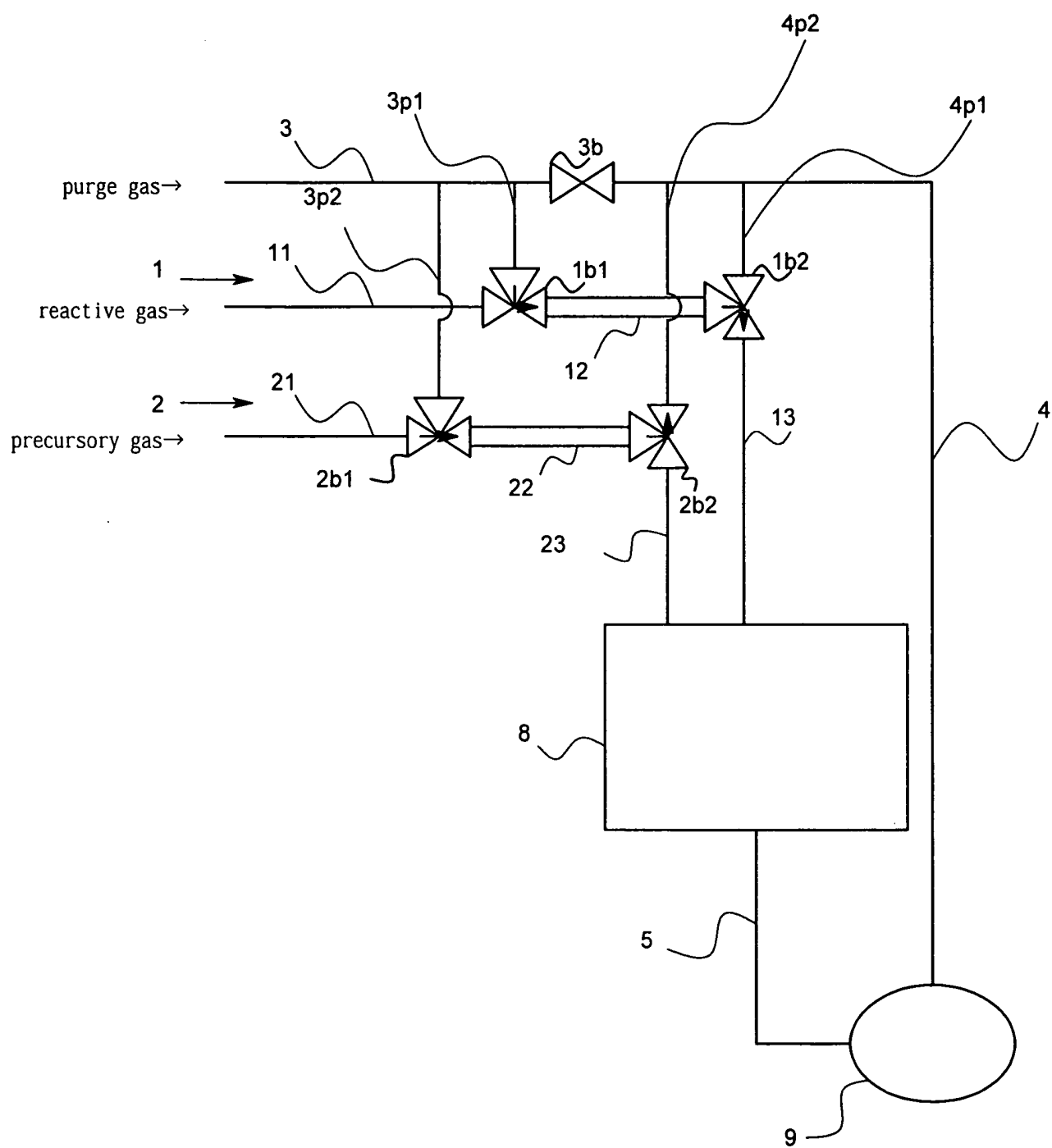


FIG.6

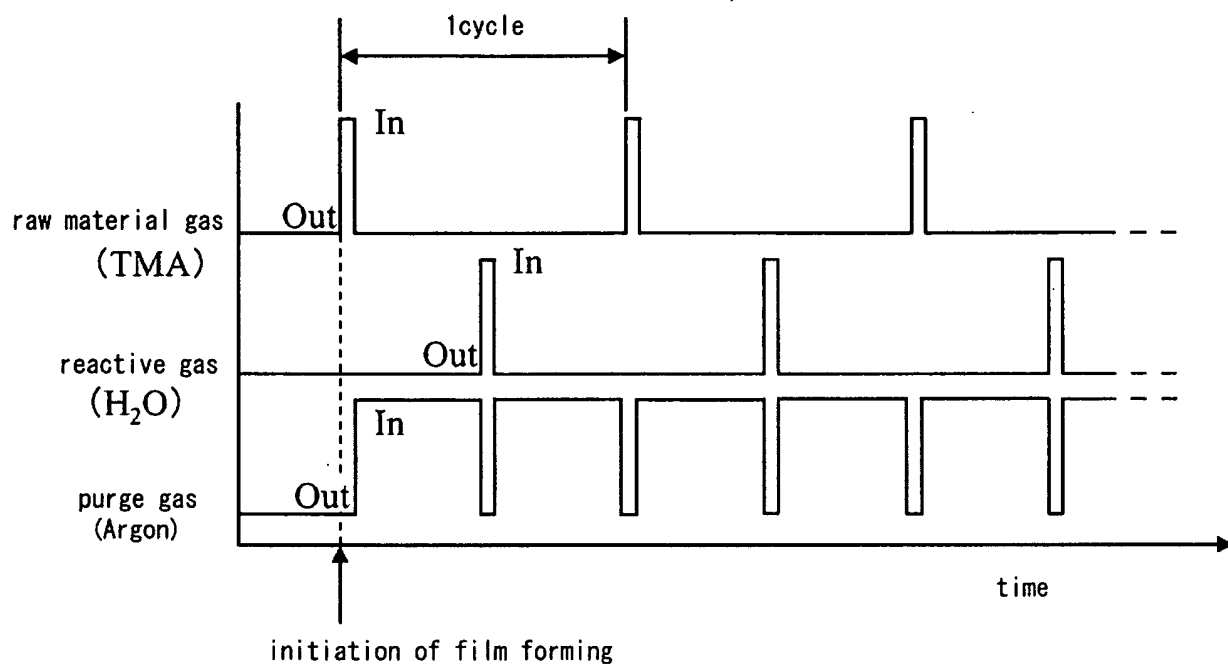


FIG.7

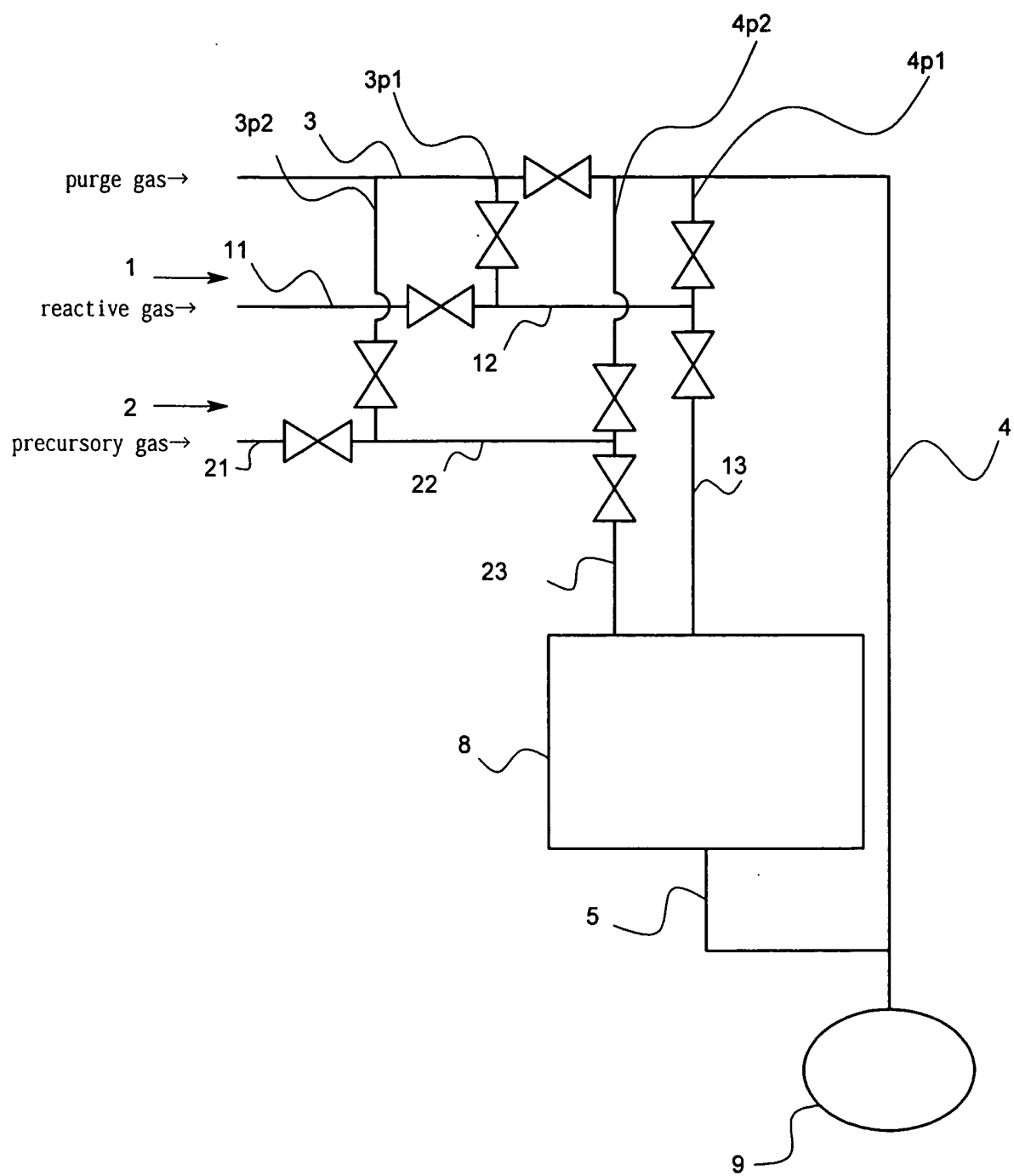


FIG.8

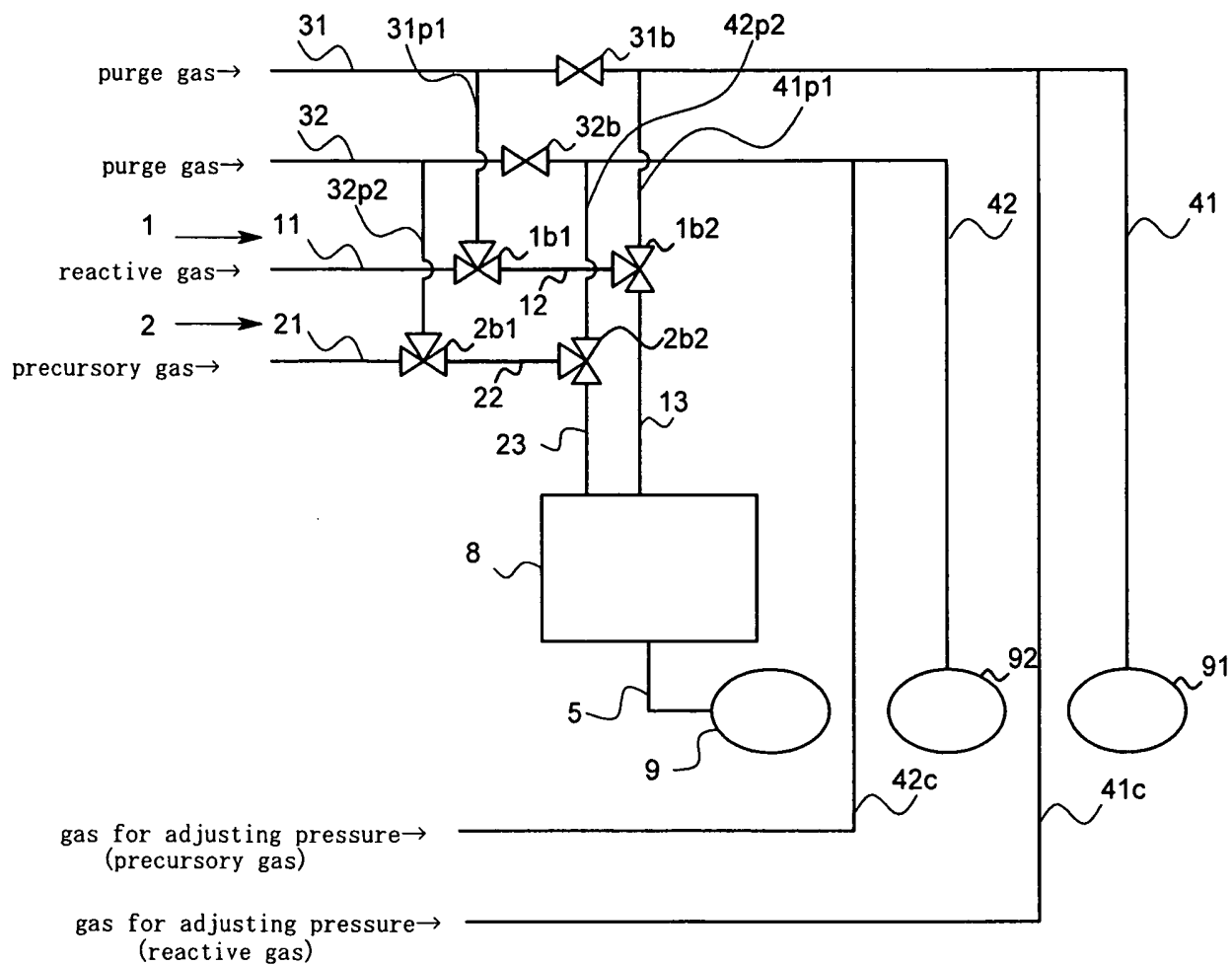


FIG.9

relationship between TMA gas concentration and purge time
(pressure dependence in coating chamber)

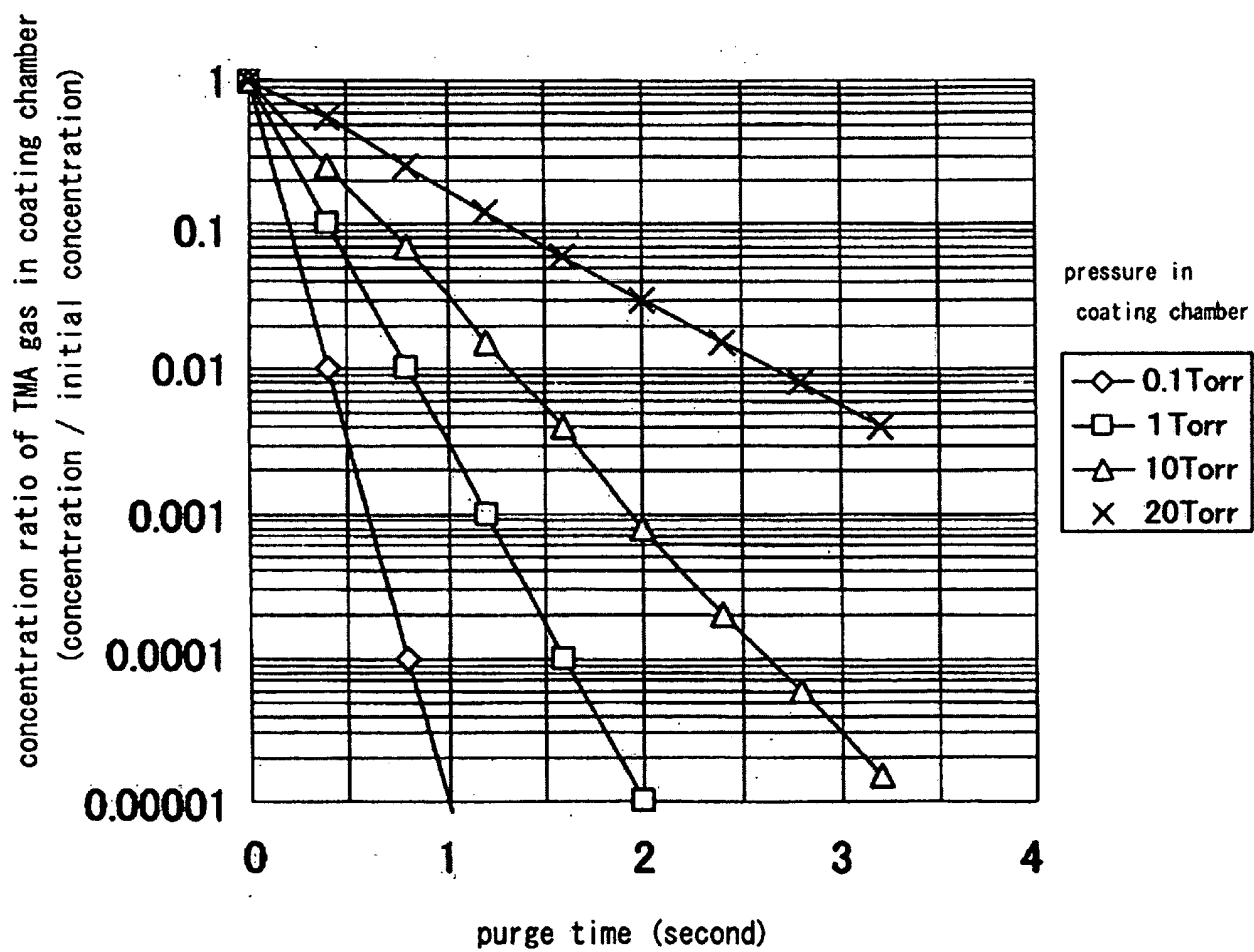


FIG.10

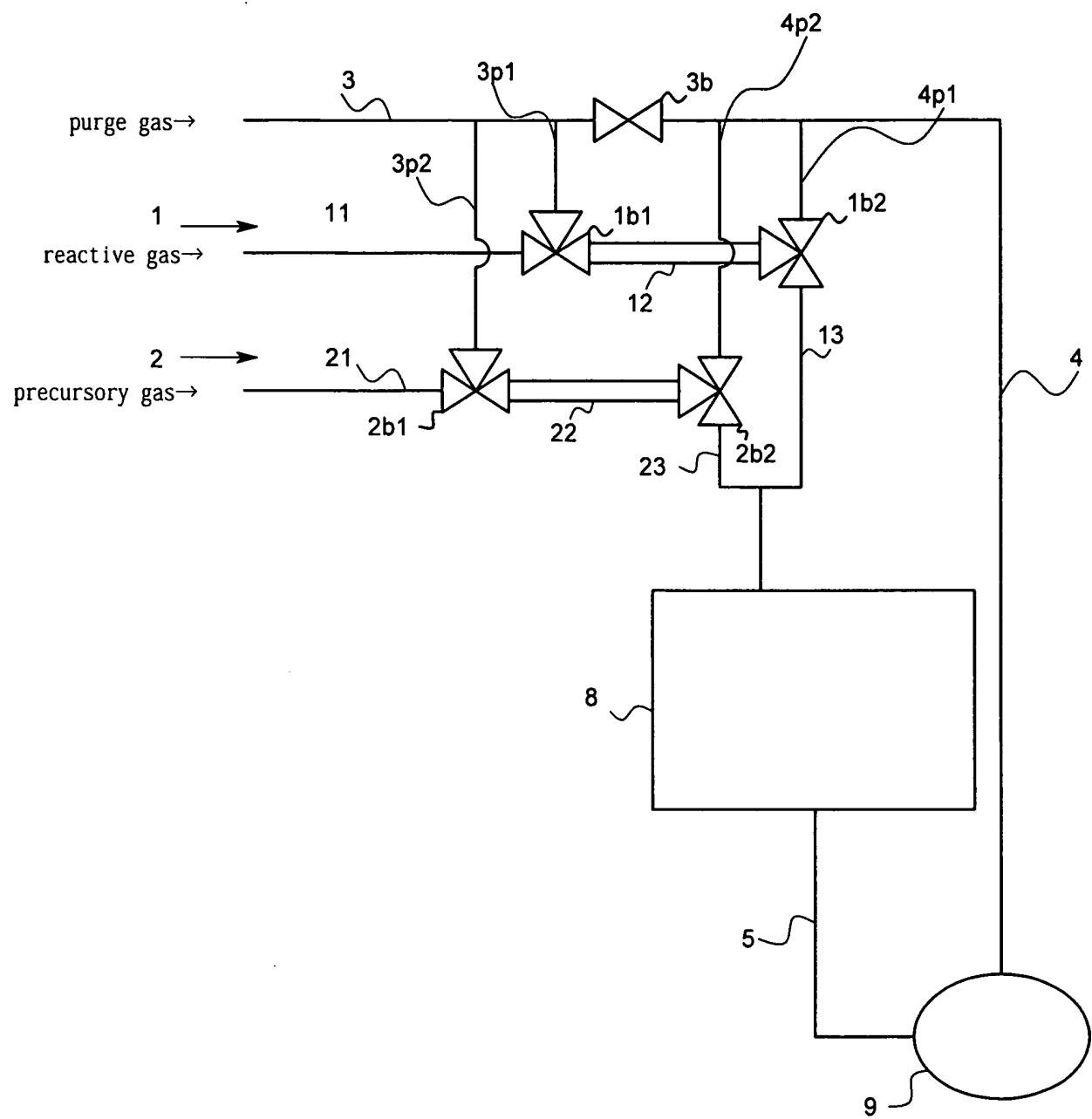


FIG.11

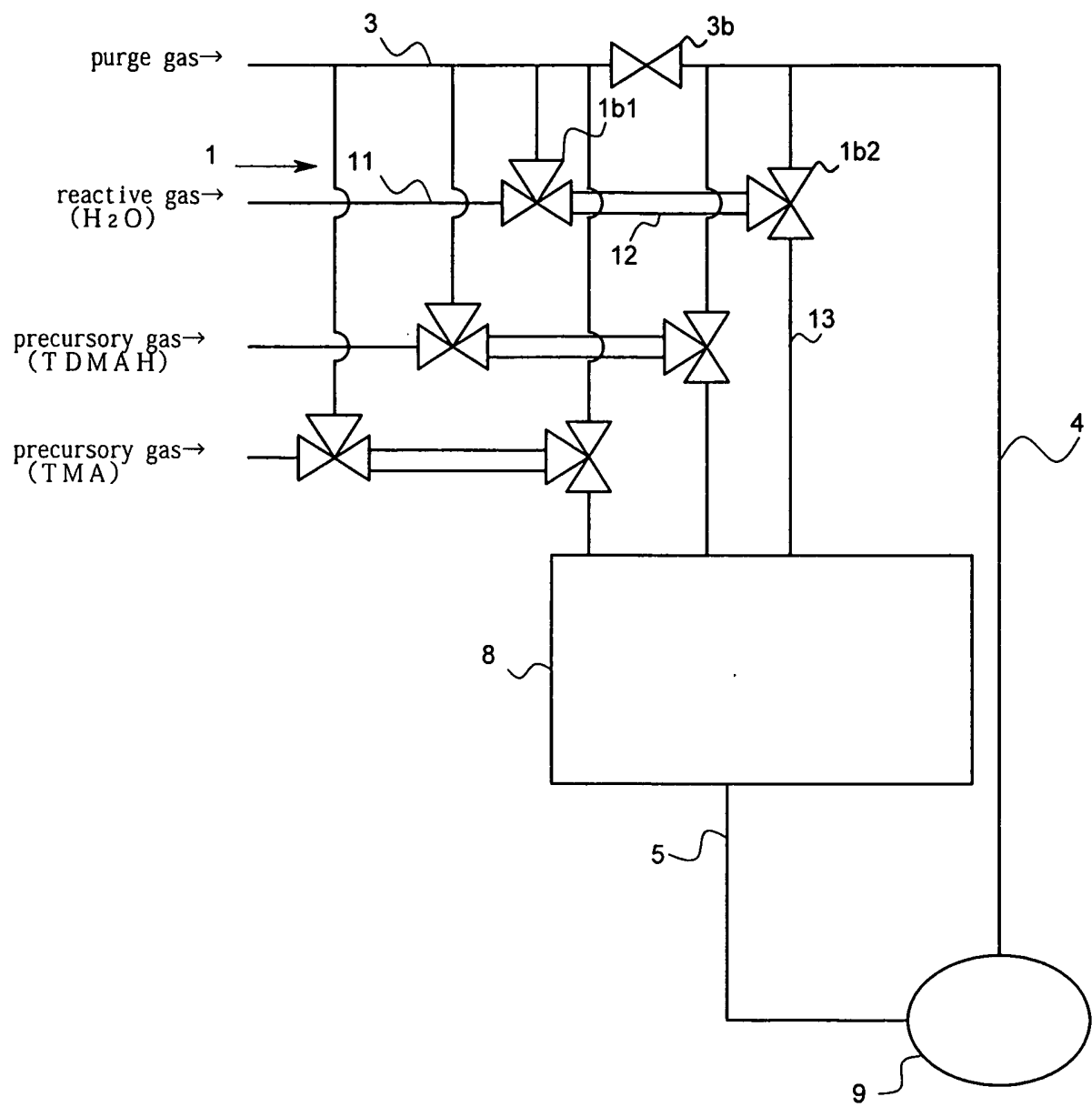


FIG.12

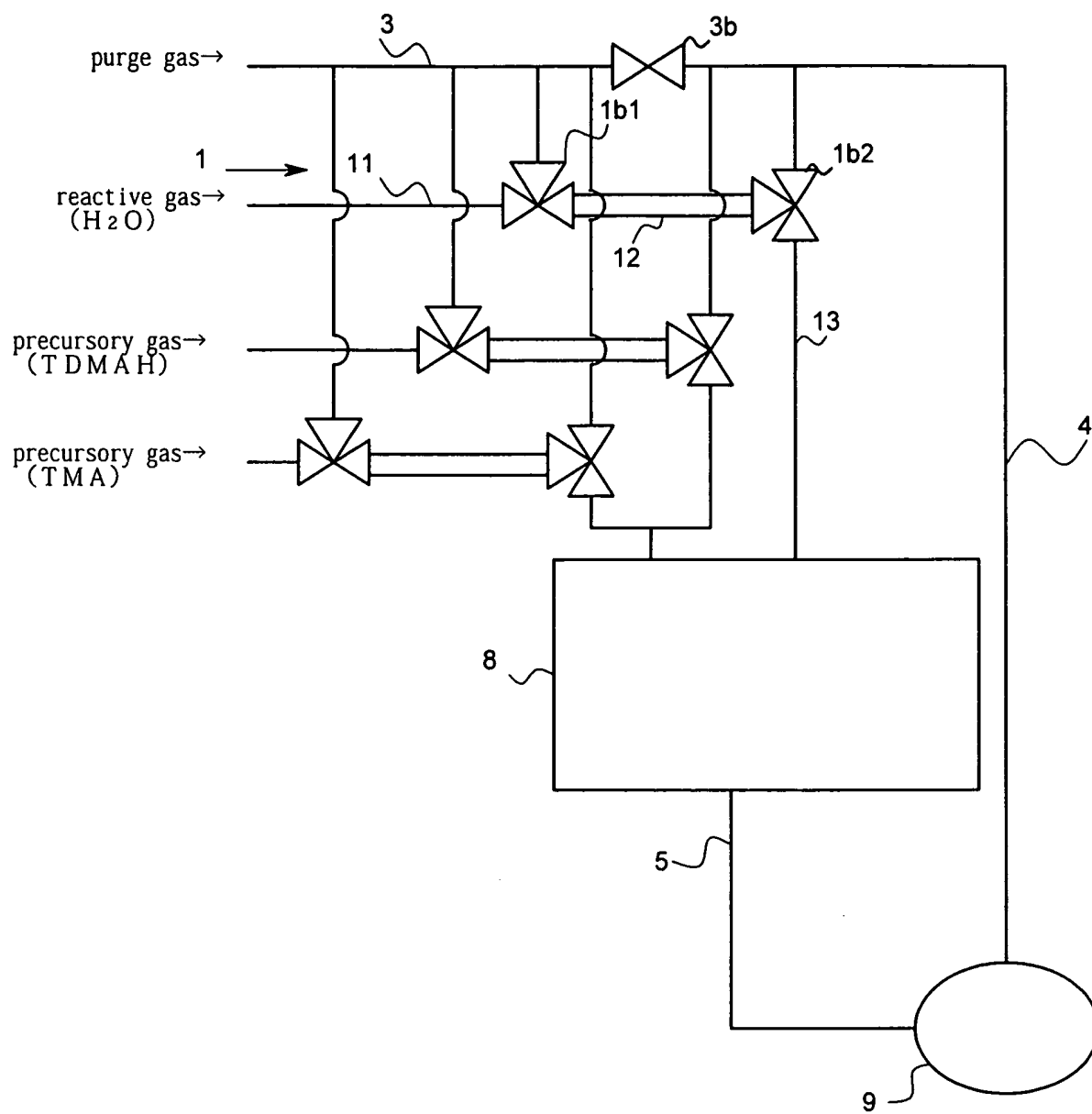


FIG.13

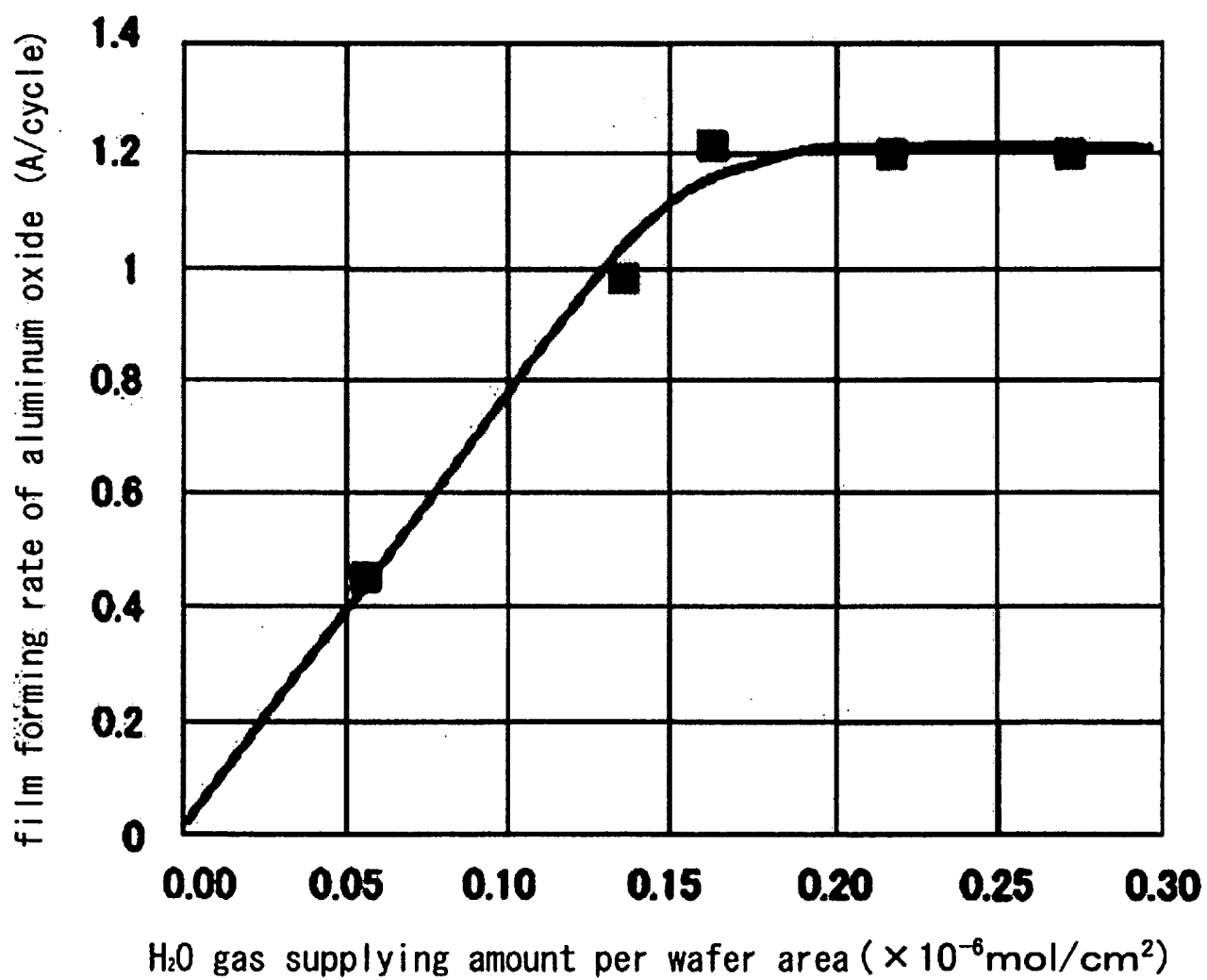


FIG.14

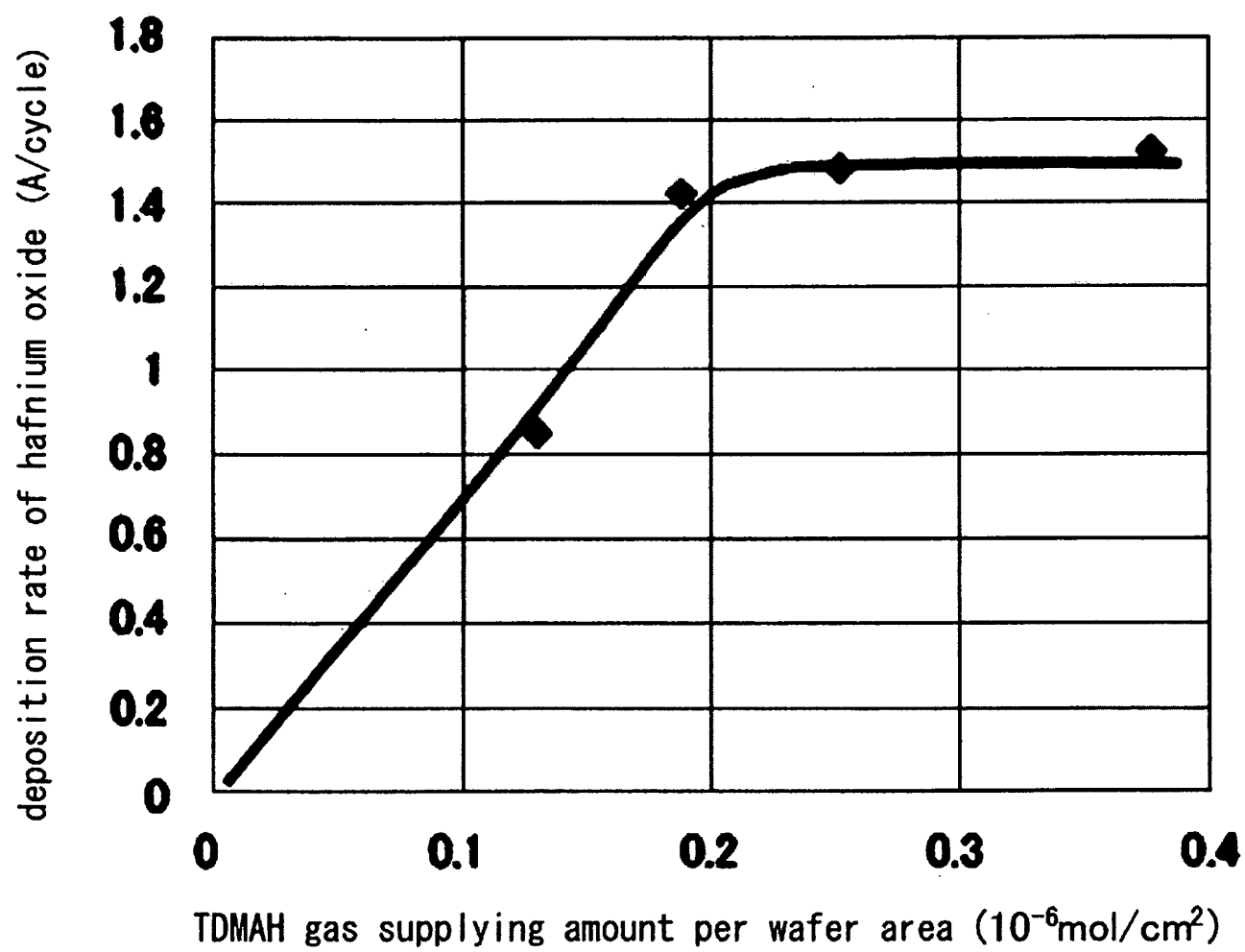


FIG.15

	Number of particles of 0.1~5 μ m diameter	Number of particles of 0.2~5 μ m diameter
Gas supplying line inside diameter 3.1mm	21	9
Gas supplying line inside diameter 6.3mm	29	11
Gas supplying line inside diameter 9.4mm	421	297

FIG.16

	Number of particles of 0.2~5 μ m diameter	Film thickness uniformity
Independent	11	± 1.2
Shared	850	± 10.6

FIG.17

condition	conventional technique	this invention
Al₂O₃ (40cycles)	3320sec	160sec
HfO₂ (40cycles)	3620sec	360sec
HfAlO_x (40cycles)	3545sec	360sec

FIG.18